

EDINBURGH, ROAD PRICING AND THE BOUNDARY PROBLEM: ISSUES OF EQUITY AND EFFICIENCY

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Postscript

“One of the architects of Edinburgh’s controversial congestion charging scheme has admitted the tolls would not treat everyone fairly.

Giving evidence to the public inquiry into the scheme, John Saunders insisted it was not fatally flawed but elements were unfair.

The admission could have a major effect on the outcome of the inquiry, which was set up to decide if road tolls would reduce congestion fairly. A ruling that the scheme is unfair could see the plan thrown out.

The problem relates to Edinburgh residents living outside the outer cordon, who are exempt from the toll but will benefit from the resulting improvements to the transport system.”

Herald and Post, 20th May 2004

1 Introduction

This report summarises the findings of a research study into some of the equity and efficiency issues surrounding the proposed introduction of road user charging in Edinburgh. Each road user pricing scheme is dependent upon the specific context in which it is introduced and this report seeks to unpack some of the issues concerning the currently (Spring 2004) unfolding proposals for the scheme in Edinburgh. Using a review of the existing policy and academic literature, press reports, telephone interviews, physical interviews and reviewing the precognition statements to the Public Inquiry on Congestion Charging in Edinburgh, it provides a stakeholder analysis of the Edinburgh Road User Charging policy environment.

High levels of vehicle use and congestion result in a number of costs including: slower travel and increased journey times; extra business costs and reduced competitiveness due to the lack of transport reliability and uncertainty about travel times, deterring new investment and encouraging decentralisation of businesses and other employers and leading to limitations on economic growth; environmental damage such as noise and air pollution; reduced quality of life for residents; reduced attractiveness to visitors and tourists; and high road injuries and fatalities, especially amongst children. There are a number of methods to try to manage transport demand through changing travel behaviour (how, when and where people travel), including road user charging. Traffic demand schemes are likely to include a number of elements (e.g. parking strategies and improved public transport) and the actual impacts of any particular scheme will depend on factors such as its individual characteristics, the interaction between the policy elements and public reaction. The impacts of any scheme may vary considerably according to whose perspective is considered (for example by: user mode such as car or public transport users; those travelling from different areas including local car drivers, car drivers from elsewhere; those travelling for different purposes, such as those going to work or going shopping or tourists; residents in different parts of the city), although any individual may be in many different groups at different times (e.g. someone who cycles to work, but drives to shopping).

Road pricing in Edinburgh is currently being actively considered by the Scottish Executive and the City of Edinburgh Council and is the subject of an on-going Public Inquiry. Road user charging is already operational in London.¹ However, the associated equity and efficiency issues have received limited attention and there is a need to have a better understanding of the costs and benefits of anti-congestion policies on different groups of people, economic development and labour markets (McQuaid and Greig, 2002). In particular, there are important displacement and other effects around the boundary cordons of road pricing areas, the main focus of this report, and linked wider labour market and efficiency implications. Other implications include the provision of social and other services (especially as staff and clients may be affected by road user charges). The Department for Transport has recently commissioned research on the design and implementation of a new system for charging for road use in the UK which includes consideration of fairness, respect of privacy and promotion of social inclusion and accessibility.² Similarly, the Commission for Integrated Transport (2003) has argued that it is vital that the social inclusion aspects of transport policy are addressed explicitly as the government's 10 year Transport Plan is rolled forward. As Edinburgh considers road user charging, the importance of tools to investigate social equity issues cannot be overlooked, yet the present policy search for such tools and related measures has been limited.

The full report (see: www.scotecon.net), which is summarised here, provides a review of literature and experience elsewhere concerning the efficiency and equity issues associated with the introduction of road pricing, and applies them to the Edinburgh case. The report also reviews public, business and academic opinions on road user charging in Edinburgh in order to explore the potential efficiency and equity issues, which have been identified by stakeholders in relation to such a charging scheme.³ In summary this report explores the social equity/inequity and business efficiency/inefficiency potentially present in such a scheme from the perspective of a range of different stakeholders with specific attention being placed on problems at the boundary.

The report reaches the understandings that:

- Much of the affected public does not fully appreciate the operational character of the scheme and its likely impacts upon trip making;
- There is considerable controversy around both the scheme itself and the consultation procedures which have heralded the scheme;
- There are perceived inequities within the road user charging scheme and such inequities have been publicly acknowledged by the scheme's champions;
- Business interests have forecast negative impacts on centre city shopping;
- Small businesses located outside the city, but servicing the city, are likely to be negatively impacted – plumbers, white goods repairers, etc.;
- The Edinburgh scheme is characterised by shared boundaries with other local authorities (which declare themselves inadequately consulted and adversely affected by the scheme), and this creates further problems;
- In order to ensure that the needs people have identified in this study are explored and amelioration of their difficulties prioritised, a tool such as an equity audit could be employed for all road user charging schemes;
- There appears to be a conflict between the City of Edinburgh publicly expressed statements on the success of its consultation in respect of the road user charging scheme and the level of controversy and character of comment expressed at the public inquiry.

Section 1 of the full report gives an overview of road user charging in Edinburgh. Section 2 sets out a matrix of potential impacts and stakeholder views. Section 3 provides a context for the matrix and Section 4 describes the particularities of the Edinburgh case. Section 5 makes some policy recommendations.

2 Road user charging in Edinburgh: matrix of impacts and stakeholder views

“Charging schemes have the potential to make significant reductions in congestion and to improve the capacity, speed and reliability of public transport, but it is important that such schemes are designed to enhance the urban environment. Schemes which merely displace traffic from a city centre to suburban or inter-urban road networks may cure urban congestion at the price of urban decline, and will lead to problems elsewhere on the road network.”

(Summary of Conclusions and Recommendations of Select Committee on Transport: First Report – Urban Charging Schemes (2003)

(<http://www.parliament.the-stationery-office.co.uk/pa/cm200203/cmselect/cmtran/390/39003.htm> [March, 2004])

Section 2 of the full report considers a variety of stakeholder views on road user charging in Edinburgh. These perspectives are summarised in a matrix format that provides detailed commentary. The summary matrix of stakeholders’ views is followed by a discussion on the views provided. The views expressed have been divided into potential impacts within and outwith the boundary, as these two spatial perspectives help facilitate the later discussion of equity and efficiency issues. By boundary, we mean the outer cordon. In addition, within Appendix 1, the opinions have been divided into categories in order to reflect the stakeholder group to which the person expressing the view belongs.

Stakeholders considered were groups (within and outwith Edinburgh) involving: large business, small business, local politicians, disability and equal opportunities groups, adjacent local authorities, affected local authorities, government departments, police, the health sector, transport academics, transport lobby groups, the transport sector, voluntary sector/community and umbrella groups, utility companies, and the general public (see Appendix 1 for details).

3 Contextualising the stakeholder perspectives matrix

Many of the issues raised by our Scottish stakeholders have echoes elsewhere in the literature. The issue of *congestion* affects both the transport of goods and in-work travel, and commuting to work. In city areas, in particular, the perception of congestion has led to the development of policy agendas to reduce the dependence upon private vehicles through an increased importance being placed on public transport, and the development of traffic management schemes, including road user charging (McQuaid et al., 2003; Bell et al., 2004). In terms of the economy, SACTRA (1999) argues that to overcome congestion and unreliability problems, substantial investment is needed to improve the existing network in the UK to ensure competitiveness, primarily road, heavy rail, urban public transport and airports. Sinclair (2002) argues that for a road user charging schemes such as Edinburgh’s to be successful, exemptions should be kept to a minimum. With reference to lower income workers in Edinburgh, Sinclair suggests there are no data readily available in terms of their trip patterns including origin and destination, travel times and travel mode - and how many may be affected by the proposals.

Levine and Garb (2002) note the distinction between enhancing mobility and enhancing accessibility, each with different potential policies to promote them. They argue that a mobility-based congestion pricing may alleviate congestion but this may threaten a deterioration of overall regional accessibility as it may accelerate metropolitan deconcentration (e.g. through shops, customers, employers etc. moving out of the centre and not being fully replaced by others). In contrast, they argue that an accessibility-based congestion pricing avoids increased sprawl by incorporating policies to ensure that drivers put off the travelling by the charges are replaced with residents and travellers arriving at the cordoned area by other means. A further analysis of literature is available in the main report.

4 Particularities of the Edinburgh case - the political agenda and policy process

Acceptance of road user charging by the public is critical (Jakobson, et al., 2000). A perusal of the types of comments made about congestion charging in the print media indicates that there appears to be some cynicism about the way in which transport policy is presented to the public:

“Although the proposed road tolls are still called congestion charging, the Council has not put the congestion argument at the centre of its campaign. Targets for reducing numbers of vehicles or levels of CO₂ emission have not been prominent in presenting the case for the charge. What has been at the centre of the Council’s campaign is raising money to pay for public transport improvements, despite the fact the Scottish Executive has already come up with the cash for the first two tramlines and the rail link to the airport. But it is already clear from London’s experience of congestion charging that tolls do not raise as much money as hoped and it costs more to run the system than expected.”

(‘Spaghetti juncture’ @ <http://news.scotsman.com/opinion.cfm?id=350332004> [March, 2004]).

This perception extracted from the news media has been confirmed by the precognition statements placed in front of the public inquiry. In contrast, the public advertisement of the “success” of the Edinburgh consultation process across European Commission web sites, and reported through the STA, clearly provides new ground through which the policy agenda and political process have developed. Other specific issues that need to be considered include the important issues of exemptions (e.g. should health workers gain exemptions due to their need to access the cordoned area and shortage in key, relatively low paid, workers) and the potential impacts on social inclusion.

5 Main findings

This section highlights the need for taking account of the local context and the utilization of compensatory revenue based schemes for adversely impacted communities when developing congestion charging schemes.

5.1 Fine tuning of congestion charging

The public awareness and public acceptability of road user charging is undoubtedly important in the re-organisation of an effective transport system. The research carried out in Edinburgh indicates strongly that it is important to examine a number of social and equity issues when developing congestion charging schemes. New approaches must be developed and old issues must be adequately addressed to heighten the likelihood of public acceptability of charging schemes. Inside of this policy space, the importance of compensatory revenue sharing arrangements around road user charging emerges as a useful new direction (Rajé et al, 2004). The specific form of the road user charging scheme (and its revenue use), the composition of the flow of people across a boundary, and of those living around the boundary, will have consequences for the shape of winners and losers. Hence, the discussion of equity must be contextualised so as to take such issues fully into account.

Important issues identified in this study include the development of boundary problems and displacement effects. Areas along the outside of the cordon may experience significant spill over parking from the central business district with drivers leaving their cars on local streets and walking or taking the bus into the city centre or cordon area. The introduction of the road user charge could result in a linked two-fold displacement effect - the displacement of cars that would have been parked in the city centre to the immediate outer-cordon neighbourhoods and the consequent displacement of residents’ opportunities to park in their local area to adjacent areas (Rajé, 2003). Second, this displacement effect may also be potentially accompanied by the ‘crowding out’ of local inhabitants from the public transport services by commuters now parking in the neighbourhoods immediately outside

of the cordon and making the remaining journey by public transport services. This may have significant labour market and social effects, particularly as certain disadvantaged groups and those in part-time or low-income jobs are particularly influenced by travel time and pecuniary costs (McQuaid et al, 2001). Further theoretical and empirical research is needed to analyse the boundary effects of road pricing schemes.

Policies therefore must consider resident parking and the level and quality of public transport carefully. Discussions of remedying social exclusion in transport provision very rapidly hit the barrier of finance: where are the resources for funding improvements to come from in a public service structure where ownership has already been highly fragmented and privatised? New demand management measures, such as road user charging, can provide new resources within the public sector for use in the improvement of public transport services and the wider public transport environment. A range of tools for remedying adverse impacts of road user charging can be considered. Some of these tools are discussed in the following sub-sections.

5.2 Hypothecation

Hypothecation has arisen as a solution in a context where it has been recognized that one of the major obstacles to implementation of an effective system of transport pricing is community resistance to charges for use of transport infrastructure when there is an expectation and history of free use.

In relation to road user charging, the UK Government has given a guarantee of revenue hypothecation that means that monies raised from congestion charging will be ear-marked for reinvestment in local transport initiatives. In light of the Oxford University research (see Rajé et al., 2004) a key facilitator of social equity would be to improve good modal alternatives to the private car with hypothecated revenue being invested in making the public transport system less onerous to use. However, while investment in public transport will assist with equity, there must be an acceptance that for certain journeys and groups of people, car-based travel is the only alternative. For example, revenue could also be used to improve and pay for taxi

journeys for those who cannot afford a car but need individual transport for medical, lifecycle or disability reasons. Demand responsive transport could assist in providing a solution to this problem (see below).

5.3 Equity audits

In order to ensure that the needs people have identified in this study are explored and amelioration of their difficulties prioritised, a tool such as an equity audit (Grieco, 2002, 2003) could be employed for all road user charging schemes. This would be a checklist for local authorities, facilitating a survey of gender, ethnicity, spatial, income and other relevant issues related to congestion charging. It would not be a 'one-off' task at the scheme conception stage but a continuous process that would allow iteration through a number of rounds over a scheme's life (Rajé, 2003). In this way, not only would baseline issues be obtained but progress towards equity would also be measurable with any adjustments needed to suppress rising inequities being captured expeditiously.

5.4 Exemptions and concessions

It is recognized that the principle aim of congestion charging is to reduce the number of cars using the roads. Nevertheless, in London for example, not all drivers have to pay the central London congestion charge. Within the London scheme there is recognition that for certain categories of drivers and certain categories of vehicles and individual a range of exemptions and discounts may be appropriate, for example, there is a 90% discount for those living in the charged area. It is important in any charging scheme to take account of the need for exemptions and ensure that these are founded on equity considerations.

Approaches that give due regard to potential for inequity display social sensitivity: for some people such as medical and other essential workers who need to be readily mobile to carry out their employment responsibilities, exemptions should be considered. Other groups such as women and shift-workers (whose shift covers part of the charging times) may rely on a private car because of personal security, family responsibility or public transport unavailability reasons. They may not be able to alter

their travel arrangements and trip patterns in response to road user charging and yet may fall into the low income categories who are already experiencing inequity in transport. For these people, exemptions may contribute to a fairer experience of transport. However, any exemption scheme cannot be too large if congestion reduction is to be achieved, and it must be fair and opportunities for abuse minimised.

5.5 Reorganisation of public transport

Hypothecation allows deployment of revenue to resolve existing transport inequity. Revenues should not simply be used to buy more vehicles or upgrade existing infrastructure on the current patterning of provision but should be to adjust the pattern of transport provision to meet the needs of poorly serviced communities. In research in Bristol and in Nottingham (Rajé, 2003), for example, respondents indicated that the present radial form of servicing had many deficiencies as a public service. It is likely that residents of areas such as Midlothian may have similar difficulties. In this regard, a major area that should be addressed is the reorganization of public transport services to allow journeys to be made that reflect community connections such as those that are found within low income communities geographically separated by slum clearance and housing redevelopment.

It should also be noted that the problems associated with having to take one radial service into town to transfer to another to travel between adjacent communities may be exacerbated after introduction of cordon charging with the displacement effect of forcing local people off buses which are filled earlier in the route by commuters parking in the neighbourhood. This emphasizes the need for road user charging and revenue to be invested in providing local, circumferential services that trace the social and other ties that exist in local communities as well as for increasing services on main arterial routes.

5.6 Demand responsive transport for essential journeys

Part of the reorganization of public transport under congestion charging regimes should be located in

the development of demand responsive transport services. Furthermore, for the elderly, infirm and disabled or socially vulnerable or physically isolated, such as ethnic minorities or women, there must be flexibility in demand responsive services to enable journeys to be made easily. Without this flexibility in demand responsive services at present, characterized by aspects such as very short periods in which bookings can be made, the need to book two days in advance and the limitation to travel only during day time, potential users have to forego trips or use alternative resources such as relatives and friends for lifts or pay for taxis. Hypothecated revenue applied to improvements in such services to make them truly demand responsive, perhaps through investment in online scheduling and booking software and provision of taxi vouchers/services to supplement existing mini-bus based service, would contribute towards social equity and have an additional benefit of decreasing the number of private car trips that are being used as substitutes when demand responsive transport failure is experienced. There may also be scope for 'pooling' different types of existing publicly funded transport provision (such as some social services and some patient transport services) with demand responsive services to make them more effective and efficient.

Apart from wage earners and salaried employees, the issue of volunteer workers in the charity sector requires attention: in many health authorities, volunteer drivers are an important source of health related transport and it is important that they have the necessary exemption from, or are fully compensated for, congestion charging especially as they are a source of demand responsive transport.

As Edinburgh considers the introduction of a tram system as part of its integrated transport package, alongside congestion charging, it may be instructive to briefly consider the findings of research on the proposed work place parking levy scheme for Nottingham. Within the proposed scheme, the issue of providing demand responsive transport routes or feeder routes to the tramline and tram stops was a subject for further attention. For some participants in that study, the idea of using the tram was attractive but there were concerns about their ability to access the service either because it would be distant from their home or because they were

elderly or disabled and therefore not able to get to a stop. The use of hypothecated work place parking levy revenues in Nottingham (or road user charging revenue in Edinburgh) for the provision of feeder mini-bus services to take passengers to tram boarding points would allow this group of people to use the new service. By making such a service demand responsive, an even greater contribution towards transport equity would be made.

5.7 Enforcement of parking restriction

Developing parking displacement audits which would identify vehicles parking in neighbourhoods adjacent to the congestion charging cordon, when operational, may be a useful tool for fine tuning a road user charging scheme. Vehicles attempting to 'escape' charges arising from demand management policies, such as congestion charging, can significantly disrupt the social and economic life of adjacent communities outside of the demand management zone (Rajé et al., 2004). The development of appropriate parking policies to protect such vulnerable neighbourhoods as part of the congestion charging strategy requires careful consideration.

Violation of parking restrictions in the adjacent neighbourhoods is, under normal circumstances, less likely to be policed and enforced. Enforcement of parking violations would be necessary to achieving equity and public acceptability of road user charging measures in the neighbourhoods adjacent to demand management schemes. Parking technology could be harnessed in identifying the level of infringement and in determining the part allocation of revenues earned from road user charging to compensate the adversely affected neighbourhoods. Parking fines could also be directly harnessed to develop and provide demand responsive transport or improvements in fixed route public transport for such areas. This practice of compensatory revenue sharing as an equity tool does not appear to have previously been considered within the framework of demand management either in respect of road user charging or in respect of workplace parking levy.

5.8 Need for simplicity and clarity of scheme operation

Mechanisms put in place for payment must be simple and easy for people to use. Anecdotal evidence from London residents suggests that even after over a year's operation, some local residents do not know how to pay the congestion charge - even some of those who regularly use the Internet and mobile phones. The Edinburgh Chamber of Commerce has underlined the importance of clear and simple ways of paying:

"It is vital that the scheme is user friendly – not just for the regular commuter who will be able to make routine arrangements to pay – but also the daily, casual visitor whether for business, leisure or retail. How will they pay? Will it be clear that they do not have to pay twice if they cross both cordons? Could payment be made using the mobile telephone technology that enables car parking charges to be paid?"

('Congestion charging – key findings of membership survey @ <http://www.ecce.org/downloads/memberdownloads/iss3p9.pdf> [March 2004])

5.9 Investigation of other options including pedestrianisation associated with improved public transport

It is important to highlight that any improvement made to public transport should be made with full regard to wider spatial effects. Rye and Wilson (2002) provide a useful example of how refinements to bus service provision post-deregulation resulted in operational gains for passengers on main corridors but left residents of more dispersed rural towns with greater access difficulties because of reduced service provision in through their areas:

"network rationalisation/simplification together with the concentration of services on key corridors at high frequencies – 6 buses per hour or more – provide a 'turn up and go' service. At the same time operators have begun to invest more aggressively in new buses, better information and route or network branding. These approaches have been credited with finally reversing long term trends of declining

patronage in Edinburgh, Glasgow and Aberdeen, for example. However, it has also led to certain bus users, particularly in outlying areas, losing their 'commercial' service, and left local authorities to fill the gaps. They are increasingly unable to do this due to rising tender prices on the one hand and falling revenue budgets on the other (ATCO, 2001). In 2000 for example, in Midlothian, an area of small towns with a total population of about 70,000 south of Edinburgh, one of the two main operators withdrew almost all their lower frequency services and left only one high frequency route. Since the strategy of route rationalisation and simplification appears to work commercially, however, it seems likely that operators will continue to pursue it."

(Rye and Wilson, 2002 @ <http://216.239.59.104/> [April, 2004])

The search for alternative solutions to congestion needs to take account of 'soft' measures such as the use of information and persuasion, as well as bans and regulations ranging from restricted access to privileged exemptions (Goodwin, 2003).

5.10 Importance of public acceptability

In developing public acceptability, it is important that external advertisement of the success of any consultation process be matched by local involvement, acceptance and endorsement of the policy agenda and consultation process. In the case of Edinburgh, there appears to be a gap between the perceptions of the technical developers of the scheme and the affected public, which is underreported in some European policy documents.

5.11 Need for consistency around transparency of policy discourse

The research revealed that some residents felt that they had not been sufficiently involved in the process of scheme development and that consultation had, at times, been rather perfunctory:

"We had a response from TIE (Transport Initiative Edinburgh) (27/11/03) to our comments on the congestion charging scheme which was too superficial. Decided to express our dissatisfaction."

(Minutes of Pilrig Residents' Association Committee Meeting (14 Jan 2004) @ (<http://homepages.tesco.net/~pilrigRA/PRAcontacts/14%20Jan%202004.htm>) [April, 2004])

As important as consultation is, in the era of readily accessible information (for many if not all) on the internet, it is equally important that every attempt should be made to ensure that public concerns that policy decisions do not take account of their views do not have reason to be perpetuated. A recent newsletter (No. 17 January 2004) of POLIS⁴ contained the following information which implies that the congestion charging scheme in Edinburgh is indeed already a programmed scheme:

"Edinburgh moves towards congestion charging system

Transport Initiative Edinburgh (tie) has issued a call for tenders for a contract to supply the congestion charging system. tie was created by the City Council to deliver major transport projects in the city. It has been given the responsibility to implement the future congestion charging scheme. The future scheme will have a toll collection system similar to the one currently used in London relying on video-based automatic number plate recognition (ANPR) technology. The system will possibly also include a means of automatic payment based upon tags and beacons. The congestion charging scheme is expected to start operating in 2006. Drivers will have to pay a £2 charge. More information: <http://www.edinburgh.gov.uk/>"

(Source: 'Edinburgh moves towards congestion charging scheme @ http://www.polis-online.org/NewsletterPolis/newsletter17_1.pdf [March, 2004])

Using wording such as 'to implement the future congestion charging scheme' and the issuing of a call for tenders suggests that there is some momentum driving the scheme towards implementation when the proposal is actually currently the subject of a Public Inquiry. In an already sensitive public arena, the unintended message of the information in the above extract could be that the authorities are going to proceed regardless of the outcome of any representation made by the public or any other consultation participants. This has great potential to

affect public acceptability, as Mackie ('The political economy of road user charging' @ <http://iei.uv.es/roadpricing/ponencias/mackie.pdf> [March, 2004]) reminds us when he states that:

"Whereas in the 1950s and 1960s professional advice was the dominant influence on policy making, social attitudes are now crucial. This reflects a better educated, less deferential society which needs to be convinced by politicians and professionals, not merely told."

To Mackie's review of reasons that policy making must be inclusive, we can add that people are now better informed both through the media and electronic sources such as the Internet. Happening upon an advertisement of an internal vacancy at the Scottish Executive in 2002 ('Storm over road tolls job advert' @ <http://news.bbc.co.uk/1/hi/scotland/2153927.stm> [April, 2004]) for someone 'to help implement' the road user charging scheme also gives the reader the impression that they are perhaps not being given a clear picture of the authorities' intentions.

It is equally important that the Council shows a sensitivity towards its public when it conveys messages about planned works: the comments expressed about roadworks and associated congestion over the period prior to a referendum on congestion charging (see 'There may be trouble ahead...' @ <http://news.scotsman.com/features.cfm?id=430382004> [April, 2004]) appear to undermine the credibility of arguments or justifications for charging that the authority puts forward. Prior to congestion charging being introduced in London there were rumours that traffic signal timings had been altered to induce greater congestion effects in order to make the consequent impact of the new charge appear more successful: a cynical part of the public in Edinburgh might consider that a rash of road works on key network links may exacerbate the apparent congestion in the city as people consider how to vote in a referendum on a scheme to reduce such congestion. However, perception is important to public acceptability, so it is important that the City Council is seen to be even handed.

5.12 Conclusions

There are many equity and efficiency issues that need to be dealt with in the current discussions on road pricing in Edinburgh. This report (and particularly the full version) has set out the views of many of the key stakeholders. There are strong arguments for traffic demand management, including possibly road user pricing, but it is important that issues of equity are explicitly resolved at an early stage in the consultation and decision making processes. Effective strategies to overcome the boundary problems and ensure adequate parking and suitable public transport provision for communities along the cordon and disadvantaged groups are essential.

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Endnotes

1. There are major differences between the London and Edinburgh road user charging scheme. In London it is located at the centre of the city and shares no boundaries with any local authority external to London, so that the impact on the boundary hinterland fell under its own authority. The Edinburgh scheme shares boundaries with external local authorities and also acts as a major services centre for surrounding local authority areas. The London scheme covers only a very small fraction of the city, while Edinburgh's covers most of the city. Also the London scheme covers primarily business districts and, unlike Edinburgh, covers relatively few households within its boundaries.
2. See: Road user charging feasibility study @ http://www.dft.gov.uk/stellent/groups/dft_transstrat/documents/page/dft_transstrat_024124.hcsp [May, 2004]
3. At the time of writing, the public inquiry into congestion charging in Edinburgh had just begun and stakeholder opinions were being revealed as the inquiry progressed. This report reflects views that were in the public domain by 2nd May 2004, and opinions expressed during interviews between April-June 2004.
4. The primary objective of Polis is to support European cities and regions in improving quality of life through innovative measures for reducing congestion, enhancing safety, lowering polluting emissions, and offering better and equal access to transport services.